

SYSTEMS AND METHODS FOR COLLECTING FLUID  
SAMPLES HAVING SELECT CONCENTRATIONS OF PARTICLES

Abstract of the Disclosure

Instruments and processes according to the invention provide for the preparation of a fluid sample that has a substantially known concentration of a select particulate matter. In one aspect, the invention is understood as laboratory instruments for sample preparation. These instruments can include a filter that is

5 submersible within a fluid suspension of particulate matter. To collect particulate matter from the fluid suspension, the instruments can cause a fluid flow that pulls fluid across the filter to trap particulate matter against one surface of the filter.

The instruments can then remove the filter from the fluid suspension and dispose the filter above a collection vessel such that the side of the filter that is carrying

10 particulate matter is positioned above the opening of the collection vessel. The laboratory instruments can then send a collection fluid through the filter in a direction opposite to the original fluid flow, thereby washing the particulate matter off the filter and into the collection vessel. The laboratory instruments according to the invention can provide samples having a known concentration by passing a

15 known volume of collection fluid through the filter, thereby trapping the collected particulate matter within a known volume of collection fluid.